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NSF CHE-9900072

In the Gorman group, we have shown how dendrimers can be used as encapsulants to create macromolecules with new properties. The phenomenon of encapsulation manifests itself across the realms of materials science and life science. These include cells, micelles/liposomes, host-guest complexes, and core-shell structures. The effect of the encapsulation can be shielding (e.g. steric protection from the outer environment) and/or engulfing (e.g. partitioning into an inner environment). In covalent, molecular encapsulation, the dendrimer serves to sterically shield and/or protect a moiety typically found at its core. This type of dendritic shielding has been used to mimic metalloproteins and in electron transfer rate attenuation which is potentially important in molecular electronics.